

Exhibit D

(previously filed as Dkt. 660-4)

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Canada Executive Briefing 2021 Programmatic Business Risk Analysis

Executive Summary:

Related to industry and regulatory policies changes driving the ecosystem shift in 2022, the objective of this document is to demonstrate the role of DV3 within LCS Canada's DVA business and the broader context of Google and industry media products.

The deprecation of 3P cookies in Chrome, expected in 2022, will put targeting and measurement capabilities on third party inventory at risk. This impacts both DV360 (excluding YouTube) and GDA (excluding Discovery). While Google is the biggest player in the Canadian programmatic market, our competitors (TTD, Amazon DSP) face similar challenges with these changes. This document will outline the detailed context for the Canadian market, the most acute areas of risk to our business, and the strategies we are putting in place in 2021 to mitigate risk thereafter.

The consolidation of media buying on DV3 is not a buying door preference vs GDA or YouTube, but rather an incremental media growth strategy for Google. In building this business, we've utilized YouTube and access to Google data as an entry point to consolidate Programmatic buying of 3P inventory (Programmatic Direct and open auction buying) across the 3P ecosystem. DV3 as our Programmatic buying platform, has been our strategy to access programmatic budgets which are often managed through Agency Trading Desks in Canada (roughly 75% of total DV3 revenue). .

DV3 has enabled LCS Canada to benefit from access to new pools of programmatic inventory and media budgets. DV3 is a larger share of our business in Canada than in other top 10 Google markets, the only comparable business in the Americas being the CGE Sector. The success of the business is a reflection of the unique ability of our teams to gain the trust of our largest buying partners (Agency Holdcos) and become the primary technology used to purchase Google O&O and 3P display and video media. As such, our near term mitigation strategy places focus on how we service those agency buying partnerships.

Programmatic has always been about the right user, in the right place, at the right time, and audience targeting at scale is what the ecosystem has used to fulfil that promise. Ultimately, regulatory and ecosystem changes will challenge key aspects of the value proposition of programmatic, and put pressure on all open web display and video buying platforms (DSPs). Across Google buying doors in Canada, roughly 40% of third party inventory is purchased using audience targeting. Of this, half is on audience tactics that rely on a cookie. Without action, programmatic buying will likely become a smaller player in the ecosystem of digital buying. With

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Commented [3]: If this is the total CA market, what is the specific breakdown on GA3 and GDA? Do we have a breakdown of % of spend by all targeting? And what targeting type is growing the most right now? Important context if 3p cookie audience target is still growing at a high rate

Commented [4]: 37% is the DV360 number which we rounded to 40%. GDA numbers are harder to get and I'm not sure if we ever got them. @bwise@google.com can you comment in here re: GDA.

The 37% includes any tactic targeting an audience list (remarketing, google audiences, bluekai/exelate, IAS etc.) Everything else would be grouped together. It isn't possible to break out contextual from prospecting for example.

In terms of growth, 2020 audience targeted spend is actual down 6% vs 2019. @bwise@google.com we could probably isolate remarketing 2019 vs remarketing 2020 which is the highest risk segment, but my guess is it'd be flat if not down slightly.

a larger slice of a shrinking pie, the risk of declining programmatic media revenue from non O&O sources is a scenario that the LCS Canada business must prepare for. 3P cookies will be available across Chrome for the entirety of 2021, and likely early part of 2022. We anticipate that there will be a gradual build up to new, non Cookie dependent, buying and measurement strategies in the lead up to Chrome depreciation of 3P cookies.

Current LCS Canada Business Context;

54% of LCS Youtube revenue and 65% of DVA revenue flows through DV3. The Canadian DV3 business is one of the largest and most mature, by DVA share, of any major Google market, the Platform drove more than **\$392M** of revenue for LCS customers in 2020 .

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Programmatic Risk Vectors on the Horizon in 2022;

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to: https://docs.google.com/presentation/d/1qoHyqX94VhupQ3mg4iGcFPJddSXHXYDj0_RZNne7Q6c/edit#slide=id.g81b868c10e_3_0

In 2022 display targeting and measurement will look much different than it does today. Browser policy changes are creating an erosion of 3P cookies that power many current 1:1 targeting tactics, and deterministic view-through measurement (a cornerstone of illustrating display value) will be replaced by **probabilistic modeled conversions**. Additionally, the threat of federal Canadian Privacy Regulation looms.

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The primary criteria used to determine revenue at risk is the examination of Audience Targeted DV360 spend vs total DV360 spend. From November 2019 to November 2020 the percentage of Canadian DV360 spend that was Audience Targeted was 37%. During the same period the % of US DV360 spend that was Audience Targeted was 50.2%. This signals that 63% of Canada's DV360 spend is not directly impacted by cookie erosion. The remaining 63% will assume the risk of the DSP technology having an eroding value proposition when you remove the ability to frequency cap across inventory sources, and report on view through conversions. This isn't a DV360-specific issue. It impacts all Ad Tech vendors that enable remarketing and audience targeting. This is objectively the most significant shift in the programmatic space that the industry has experienced.

Entering 2021 there is uncertainty amongst our most strategic customers, they are eager for guidance on how to navigate the change. Instability creates opportunity for competitors;

- Walled gardens, like Facebook, can make a play to absorb privacy challenged display revenue in the same way that Google will prioritize O&O media.
- Programmatic competitors like TTD and Liveramp will challenge stable DV3 relationships with aggressive POVs on what the future of identity will look like. Google will need to cut through the noise and balance an alternative vision of the future with clear mitigation steps that marketers and agencies can take today.

Some details that demonstrate the risk;

DV3 has shown to improve YT business: Customers who spend >50% of their YT budget on DV3 show faster growth in their YT spend by a factor of 2.5x

- Several benefits of media buying consolidation within DV3: (a) Better strategic position for Google - gain seat at table to influence budgeting decisions, (b) Increased control over how Google media are measured & represented, (c) Ability to better optimize all media together in our solutions, improving customer results & satisfaction

Programmatic Product Roadmap; If the expected decisions are taken by product the DV3 value prop will be heavily diminished impacting both 3P and YT revenue.

- Key DV3 functionalities for 3P inventory will be significantly impacted with elimination of cookies / IDFA coverage (e.g., remarketing, audiences)
- Main value prop for buying YT on DV3 is media consolidation with 3P inventory → expect YT DV3 revenue to move to competition or to Google Ads with lower growth potential (above)

Connected TV; In addition, we risk the ability to grow YT CTV and 3P CTV revenue from fast-growing CTV media. CTV is the fastest growing video format in the market and for Google, but we only have ~8% of market (excluding YouTube).

Alternative solutions; Competitors, and in some cases partners, are investing in Unified ID solutions and have begun mobilizing their sales strategy around this feature set. These types of solutions take marketer PII (CRM, log in) and match it with publisher PII (Log in) in a way that is

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@mself@google.com Does this work? Please edit and resolve.
Assigned to Jeremy Freedman

Commented [7]: I think we should call out that it's already largely been mitigated by modeling and doesn't seem to be a primary concern of customers.

Commented [8]: Should we frame that as an advantage for Google where we have better data to model with?

Commented [9]: Yes. The bottom line is everyone will have to fill gaps with modeling and we have lots of experience with that.

similar to how Google runs Customer Match. The aggressive messaging push in market has already begun to create headwinds for us that will continue in 2021. We have doubts about the viability of these solutions due to their current lack of consent integrations and a general lack of scale with logged in publisher data in Canada.

Google Canada Risk Mitigation Strategy:

Near Term (1H'21); For the most part, risk in 2021 will be unchanged from what we saw emerging in 2020. Our competitors will be building a picture of digital identity that is largely unattainable in Canada as the market lacks the required scale of logged in publisher data. Once approved, our goal in this timeframe is to begin to communicate to the market more concrete details on the testing plans of the current solutions that Google is considering (Privacy Sandbox, PII ID integrations, additional modeling/ML use cases). We need to be arming our customers with the right questions to ask challengers, while positioning our alternative view of the future of personalized digital marketing. Service will continue to be an area where we must invest to stay ahead of TTD with the Agency buying teams. Over communicating betas and product changes that Agencies can use to show customers they're on cutting edge of data driven media buying.

Mid Term (2H'21 - 2022); As detailed below, we have a robust strategy to migrate audience buying and measurement to durable tactics. In 2H'21 we will begin onboarding Canadian Marketers and Agencies to beta testing of our Privacy Sandbox. Our teams have OKR's directed at future proofing measurement strategies with technical solutions such as OGT and GA4. Our Advanced Marketing Analytics (AMA) data science strategy will pivot to providing new methods of delivering equivalent or better insights that do not rely on 1:1 digital identity.

Targeting Risk Mitigation Strategy:

Privacy Preserving APIs (Privacy Sandbox): Though this is a set of features being developed outside of the ads ecosystem (by Chrome in collaboration with the broader ecosystem, including W3C), the Privacy Sandbox is foundational to Google's future approach to Audience Targeting and Remarketing without the use of 3P cookies. These APIs are a series of proposals to satisfy third-party audience use cases, without a reliance on user-level tracking mechanisms like 3P cookies.

- A flaw in Unified ID solutions is that they rely on publisher logins to match to marketer data. The % of publishers with logged in Canadian users is low, which will mean that as much as this is being positioned as a "future-proof" method by competitors, it will likely suffer scale challenges in Canada. Additionally there is very little publicly available information as to how Unified ID solutions will integrate with opt in/out standards driven by regulation. If there are further crackdowns on PII use in advertising, Unified ID may be short lived.

- In 2021 we will position the Privacy Sandbox proposals with the most traction, Federated Learning of Cohorts (FLoC) and TurtleDove, as part of Google's vision of a privacy-centric future for digital marketing on the open web. FLoC represents an evolution of interest-based targeting, and TurtleDove represents an evolution of remarketing.

Composite Audience Metric (CAM): CAM is a method of measuring durability of audience targeting tactics developed by the US Platforms Solutions Product Strategy and Privacy Team. It seeks to migrate vulnerable audience spend (3P audience lists, tag based remarketing) to more durable alternatives (Customer Match, Google Audiences, Similar Audiences).

- Customer Match on O&O is the most durable form of remarketing in a cookieless world beyond Privacy Sandbox. This is an advantage against competitors that do not own their own inventory. In 2021 we will increase scaling efforts on O&O with a particular focus on Discovery ads.
- Increase Composite Audience Metric to display coverage on 3P inventory to 60% on key accounts
 - Currently at 50% of audiences are durable, higher than any sector in the US
 - CTV audiences based on IFA (Identifier for Advertisers) are considered durable. These include integrations (existing and in development) with Nielsen, Comscore, TruOptik

Double down on 1st Party Data through Accelerate 1PD labs and durable AMA projects:

1st Party remains a cornerstone of any kind of audience strategy going forward even though it will be used in increasingly different ways.

- In 2021 we will help our advertisers grow their 1PD strategy in the following ways:
 - Leverage Accelerate 1PD Labs via Platforms Solutions to help marketers across the data-wealth spectrum grow and effectively activate their 1st party data set
 - Evolve AMA projects to focus on durable activation and measurement

Measurement Risk Mitigation Strategy:

Revenue at risk due to loss of measurement is substantially mitigated by already-launched modeling solutions in core performance reporting across GMP.

Tagging: Marketers need to measure performance today and they will need to measure performance tomorrow. Ensuring that Canadian marketers are set up to continue to do so is absolutely critical to succeeding in 2022 and beyond.

- Hit AMER target (not yet set) for One Google Tag (OGT). This preserves basic click-through conversion measurement without the reliance of a 3P cookie. It is table stakes, though mission critical.
- Identification of clients with heavy Safari traffic that would benefit from Server Side GTM (sGTM) beta, which eliminates ITP enabled 24hr forced lookback on click through conversions.

Commented [10]: Once 3P cookies go away, it may not be possible to use durable alternatives (CM, Google & similar audiences) on 3P inventory (outside of solutions with Sandbox) as the link between e.g., Google audiences and 3P inventory is cookies, right? Adding @bpiermont@google.com to confirm
Assigned to Barbara Piermont

Commented [11]: Customer Match as part of this metric is definitely flawed. It will not work on 3P inventory. We've raised this with Canice's team.

Google Audience will continue to work, but will only use contextual signals as opposed to user level signals. Also something we've raised, but the line from product on this has been that we need to expand our definition of audience targeting to include.

Similar Audiences will work differently because the signals that the system has to make comparisons off of will be limited, but they will still run. We've raised this as well, but guidance has been to embrace these changes instead of getting bogged down in the nuances.

Commented [12]: We are meeting with Canice tomorrow to discuss the CAM metric and some of these nuances. The Privacy Activation metric GPL is pushing also focuses on 1p data (which includes a focus on Customer Match, i-5 and Similar Audience) but agree that those items will be durable form an O&O perspective

New Paradigms: The new Future of Measurement narrative clearly paints a picture of a future where measurement (especially display measurement) is going to require more testing, modeling and varied approach than ever before. Essentially one size does not fit all. To win in 2021 and beyond we will:

- Build confidence in the modeling provided across our products (DV, Ads, SA, GA)
- Embrace MMM and brand measurement where necessary
- Focus on experimentation and lift studies to demonstrate incremental value like never before.

*Agencies are critical to make this work.

Next Gen Products: Next generation of measurement products within Google is already here. In 2021 we will scale adoption of:

- GA4; It is critical that our most strategic clients begin to adopt tags now in order to get a head start on the future. This is also where Consent Mode for Analytics will live, which provides critical infrastructure should Canada adopt GDPR-style regulation

<<<<<<<<<POINT OF VIEW ENDS HERE>>>>>>>>>>>

MT Notes;

Defense - How will we maintain the status quo and assess risk;

Need to re-frame risk around the following theses;

- Quota/Revenue (Sue/Kevin, Ben Wise).
 - Build out the table that we have above with all the dimensions of the DVA business and potential outcomes.
 - CMG Revenue view might be a good starting point.
 - How do we think strategically about platform penetration in CA (Android: 45% in CA (55% IOS) & Chrome OS: 20% in CA - note, Marketing owns this. What impact does this have on the overall Revenue picture.
- Competitive (Jeremy, Ben, Thierry);
- Reputational (Matt T, Mladen and GTM);

Offense - How are we repositioning Google products and preparing our customers for the future of digital marketing;

- iOS14;
 - A lot to unpack and the Privacy Sandbox does not solve for any of it
- Privacy Sandbox;
 - API relies on assigned users to cohorts based on their browsing history
 - Assign a cohort ID to people who are interested in buying a new home, auto etc....

- Power on the hands of the browser not the advertiser
- Interests, browning behavior and cohort models and insights can be built as well as the targeting.
- Geo-based attribution is a proxy for how we would do this with cohorts.
- A lot of things you can do with this data once you can stitch it together.
- **Sandbox Notes from GTM:** Google ads team published a [blog](#), announcing key progress updates and proposals in the Privacy Sandbox. These announcements are intended to provide an update on the progress being made with the Privacy Sandbox and reaffirm our confidence that this is the best path forward.

The most relevant/TL;DR talking points from the Ads post are:

- **We are confident** the privacy preserving mechanisms developed as part of Privacy Sandbox are the best path forward for the industry to improve user privacy and sustain a healthy, ad-supported web. *It will represent the future of how our ads and measurement products will work on the web.*
- **We are seeing promising results from testing.** For example, tests of FLoC to reach in-market and affinity audiences show that advertisers can expect to see at least 95% of the conversions per dollar spent when compared to cookie-based advertising and we expect to begin advertiser-facing tests for Google ads customers in Q2.
- **We're seeing industry engagement** on the Sandbox initiative. The new [FLEDGE](#) sandbox proposal for the remarketing use case builds on Chrome and others' proposals by including the use of a trusted server as part of a viable path to replace cookie-based retargeting while still delivering results for advertisers and publishers. And ad exchanges, DSPs and advertisers can begin testing these APIs themselves through newly available bid request signal experiments.
- **We continue to work on measurement solutions**, including the Conversion Measurement API to provide event level reporting for bidding/reporting and aggregate reporting to third parties, and extending to additional use cases such as view-through measurement, incrementality, reach and attribution. Expect to see more from us later this year.

Key messages, FAQs and resources are available in the [January 2021 Google Ads Privacy Sandbox Blog](#)

Comms.

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- Cohorts that exist today..... (Nami and Caroline) Geo, contextual, etc....
- Cohorts that exist tomorrow FLoC
- Notes from Nami on plan to test cohort strategy. Meeting with Johanna scheduled to follow up on strategy the first week of February.

SG notes:

Competitive Considerations:

- TTD - servicing vs effectiveness?
- FB
- AMZ

Strategic Long Term Questions:

i) Customer reaction:

- How is effectiveness impacted in different scenarios vs other competitive options?
- What is client appetite vs immunity to change (which is bigger - type of marketing or partnership?)
- What is the risk profile of clients (ie. banks who are conservative vs others who are less) and how does this impact? Retail vs Finserve vs Telco

ii) Regulatory/Reputation - significant impact on publishers, UK CMA lobby.

- How will publishers react/be impacted in different scenarios? How do we listen on how this evolving?
- How will this play out on our reputation (buy side and sell side)?

iii) Platforms:

- How do we think strategically about platform penetration in CA (Android: 45% in CA (55% IOS) & Chrome OS: 20% in CA - note, Marketing owns this

iv) Resourcing:

- How much of a lever is this in CA (vs TTD), especially given smaller client/agency teams? Is this something we need to think differently?
- Depending on scenarios, how do we think about servicing vs advanced measurement/analytics (marketing science etc)?

v) Value proposition/strategy:

- What is our long term value prop as scenarios become more clear?
- How do we think about O&O as this evolves?